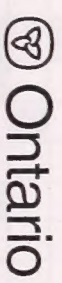


A guide to
Environmental Legislation
affecting the
Ontario Construction Industry

February 1995



Ministry of Environment and Energy

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Disclaimer

New legislation, regulations and guidelines are introduced on a regular basis. This guide addresses current legislation governing environmental protection for construction, demolition and renovation activities.

Knowledge of other legislation affecting the construction industry and updating of current environmental legislation influencing construction industry activities is the developer's/contractor's responsibility.

Proposed guidelines and policy have been included in this guide to inform the Ontario construction industry of environmental legislation under review that may affect certain construction industry activities. Any discussion of proposed guidelines and policy reflects the current status of the "draft" legislation at the time of printing; the "final" legislation may be considerably different from that presented in this guide.

The Ministry of Environment and Energy (MOEE) and the construction industry associations that participated in the development of this guide assume no responsibility for any actions taken on the basis of information in this publication.

Acknowledgements

This guide was written and produced by the MOEE with the support and cooperation of the following associations:

- Council of Ontario Construction Associations (COCA)
- Ontario General Contractors Association (OGCA)
- Ontario Home Builders' Association (OHBA)
- Ontario Hot Mix Producers Association (OHMPA)
- Ontario Road Builders Association (ORBA)
- Ontario Sewer & Watermain Construction Association (OSWCA)
- Ontario Waste Management Association (OWMA)

The MOEE would like to express their gratitude to all the industry officials who freely gave their time to meet and provide direction and advise on the guide's content and appearance.

The MOEE would also like to acknowledge the Greater Toronto Home Builders' Association (GTHBA) for its publication entitled *Residential Development and Environmental Regulation*, which is an excellent guide on the development approvals process.



PIBS 3301e

ISBN 0-7778-3573-8

Printed on recycled paper

Preface

The purpose of the guide is to provide a helpful reference on environmental legislation (i.e. acts, regulations and guidelines) for use by those involved in construction, demolition and renovation activities (construction industry management and employees, contractors, site superintendents, developers, estimators and consultants) in Ontario. The guide will increase the level of awareness of environmental legislation and provide a "checklist" of environmental requirements.

The scope of the guide includes information regarding Ontario Ministry of Environment and Energy (MOEE) acts, regulations, guidelines, and proposed initiatives relevant to construction industry activities related, but not limited, to: wetlands; watercourses; air quality; smells, noise and vibration; water supply; storm water management; sewage disposal/treatment; and contaminated soils.

This guide does not address federal legislation or other provincial legislation dealing with issues related to: agricultural lands; topsoil management; aggregates; flood plains; watercourses; wetlands; woodlots; plant and wildlife habitat; Environmentally Sensitive or Significant Areas (ESAs); Areas of Natural and Scientific Interest (ANSIs); municipal planning; labour; occupational health and safety; fuel handling & storage; or pressure vessels.

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has the mandate for agricultural lands and topsoil management. OMAFRA's general inquiry number is (416) 326-3400.

The Ministry of Natural Resources (MNR) and the local Conservation Authorities deal with flood plains, watercourses, wetlands, woodlots, plant and wildlife habitat, ESAs and ANSIs. The MNR is chiefly responsible for aggregate related issues. MNR's general inquiry number is (416) 314-2000.

The Ministry of Municipal Affairs (MMA) is responsible for municipal government and community planning. MMA also jointly administers the Provincial Policy Statement on Mineral Aggregate Resources and the Wetlands Planning Policy Statement with MNR. The MMA general inquiry number is (416) 585-7041.

Labour and occupational health & safety issues are the mandate of the Ontario Ministry of Labour (MOL). The MOL general inquiry number is (416) 326-7565.

Fuel handling & storage related issues are handled by the Ontario Ministry of Consumer and Commercial Relations' (MCCR) Fuel Safety Program. Their general inquiry number is (416) 234-6030.

Pressure vessel issues are managed by MCCR's Pressure Vessels Safety Program. Their general inquiry number is (416) 234-6000.

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Introduction

The Ontario Ministry of Environment was first established in 1972 to consolidate responsibility for all aspects of environmental protection, enhancement and restoration under one provincial agency.

The consolidation involved two government agencies, the Department of the Environment and the Ontario Water Resources Commission, with the new ministry inheriting the operating legislation from each of its predecessors. In February 1993, the Ministry of Energy and the Ministry of the Environment were amalgamated into the Ministry of Environment and Energy (MOEE) in a government-wide restructuring.

Some or all aspects of the following environmental legislation and initiatives may have relevance to construction industry activities in Ontario:

ACTS

- Environmental Protection Act, R.S.O. 1990
- Ontario Water Resources Act, R.S.O. 1990
- Environmental Assessment Act, R.S.O. 1990
- Pesticides Act, R.S.O. 1990
- Environmental Bill of Rights

REGULATIONS

- 3Rs Regulations (O.Reg.101/94 — O.Reg.105/94)
- Regulation 346: General — Air Pollution, R.R.O. 1990
- Regulation 347: General — Waste management, R.R.O. 1990
- Regulation 349: Hot Mix Asphalt Facilities, R.R.O. 1990

- Regulation 362: Waste Management — PCBs, R.R.O. 1990
- Regulation 189/94: Refrigerants
- Regulation 413/94: Halon Fire Extinguishing Equipment

GUIDELINES

- Guidelines for the Decommissioning and Cleanup of Sites in Ontario
- Interim Guidelines for the Assessment and Management of Petroleum Contaminated Sites in Ontario
- Guidelines for Evaluating Construction Activities Impacting Water on Resources
- Protocol for the Management of Excess Materials in Road Construction and Maintenance
- Guidelines for the Handling, Transportation and Disposal of Asbestos Waste in Bulk
- Removal Procedures at Sites Containing Substantial Quantities of Asbestos Waste
- A Guide to Waste Audits and Reduction Workplans for Construction and Demolition Projects (Under O.Reg.102/94)
- A Guide to Source Separation of Recyclable Materials for Industrial, Commercial and Institutional Sectors and Multi-Unit Residential Buildings (Under O.Reg.103/94)

PROPOSED GUIDELINES & POLICY

- Proposed Guideline for the Clean Up of Contaminated Sites in Ontario
- Proposed Policy for the Management of Excess Soil, Rock and Like Materials

Acts

Environmental Protection Act (EPA)

The general provisions of the EPA cover all types of pollution, forbidding the discharge of any contaminant to the natural environment in amounts, concentrations or levels exceeding those prescribed by regulation. A contaminant is defined as a solid, gas, liquid, odor, heat, sound, vibration, radiation or combination of any of these, resulting directly or indirectly from human activities, which may cause injury to humans, flora or fauna.

In addition to regulated limits for specific contaminants, the EPA prohibits any discharge that is likely to impair the natural environment, injure or damage plant or animal life, cause harm or discomfort to any person, affect the health or safety of any person or render any property, plant or animal life unfit for human use.

Anyone proposing any project which would cause the emission of excessive contaminants to the environment is required to apply for and secure a certificate of approval and to install any required pollution control measures before operations can commence.

Various provisions of the EPA cover air pollution control, including automotive emissions, the control and certification of waste handling and disposal systems and sites, and the inspection and certification of private sewage systems by the ministry. Amendments made to this act provide legislative authority for municipal noise control bylaws.

Part X of the EPA came into force in 1985. Commonly known as the Spills Bill, it requires spills of pollutants discharged into the environment to be reported and cleaned up promptly by the owner or person in control of the material when it was spilled. It establishes a liability on those who own or control the spilled material to compensate those

who incur costs or suffer damages. The EPA also established the Environmental Compensation Corporation (ECC) which receives applications for compensation from parties who have suffered loss or damage due to a spill. The ECC does not replace the role of insurance companies, nor does it lessen the legal responsibilities of those involved in a spill. It does help where those sources of compensation are not available.

The ministry also established the Spills Action Centre (SAC) in 1985. The centre receives notification of spills 24 hours per day, 365 days per year on a province-wide toll-free number. When a spill occurs, SAC is responsible for assessing the situation and determining what assistance the ministry can provide.

Ontario Water Resources Act (OWRA)

This act gives the ministry powers to regulate water supply, sewage disposal and the control of water pollution. Certificates of approval and installation of any required pollution controls are necessary for any persons, industries or municipalities drawing from a water body or discharging into it. Water quality criteria have been established as acceptable standards for the various uses made of surface water and ground water.

Environmental Assessment Act (EAA)

The EA Act provides for the protection, conservation and wise management of Ontario's environment. The Act is intended to promote good environmental planning by providing a responsible and accountable process of decision-making. All aspects of the environment, including the natural, social and cultural environment, must be considered when preparing an environmental assessment (EA).

The aim of an EA planning process is to consider the positive and negative environmental effects of a proposed project, including its alternatives, in order to provide the Minister or Environmental Assessment Board with sufficient information to determine whether or not the proposed undertaking should be approved.

All public sector undertakings are subject to the *EA Act* unless exempt. The public sector includes Ontario Government ministries and agencies, Ontario municipalities, public utilities (such as Ontario Hydro) and Conservation Authorities. Public sector 'undertakings' to which the Act applies, include public roads and highways, transit facilities, waste management facilities, sewage and water works, electrical generation and transmission facilities and flood protection works.

The *EA Act* does not generally apply to private sector undertakings, unless designated by regulation. For example, one regulation makes certain major private sector infrastructure projects subject to the requirements of the *EA Act*, similar to their municipal counterparts. Most private sector landfill proposals are also designated under the *EA Act*. Anyone may request that the Minister of Environment and Energy designate any private sector undertaking subject to the requirements of the Act. The Minister, with Cabinet approval, makes the decision on whether or not the Act will apply.

Pesticides Act (PA)

This legislation restricts the storage, distribution, sale and use of pesticides. The ministry examines and licenses professional exterminators and maintains a classification system to ensure that hazardous chemical pesticides are not handled or used by unqualified persons.

Environmental Bill of Rights (EBR)

The EBR incorporates: a requirement that Statements of Environmental Values be prepared by 14 provincial ministries; the creation of an environmental registry to give the public necessary information, including advance notice of significant environmental proposals and decisions to be made; appointment of an Environmental Commissioner to make sure the principles of the bill are applied in a fair and consistent manner; provisions for initiating investigations of alleged contraventions of environmental laws; enhanced access to courts by the creation of a new civil cause of action; provisions for requesting formal review of decisions; provisions for requesting that the government formally review existing or the need for a new environmental policy or regulation; and extended whistle-blower protection for employees who report environmental wrongdoing.

Whistle-blower protection went into effect on Feb. 15, 1994.

Employees will have the right to participate in any activity under the EBR. Complaints may be made to the Ontario Labour Relations Board when employees feel they have been unfairly treated as a result of actions or protests. The bill also removes barriers that obstruct suits for loss or injury as a result of public nuisance causing harm to the environment.

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The EBR environmental registry (an electronic bulletin board service which is part of the Ontario government Information Service) came on-line in May 1994 to provide the public with information about environmental proposals before decisions on them are made. The registry will also provide information on how the public can participate in these decisions. The registry will be accessible via a home or office computer and modem, or local public library equipment. It will also be accessible on the Ontario Government Network and through Internet. MOEE proposals for policies and acts are on the registry.

Requests for investigations can be made by any two Ontario residents where there is a suspected violation. MOEE is accepting requests for investigations beginning Aug 15, 1994. By Nov. 15, 1994, MOEE will use the registry to give notice to the public of regulations and prescribed instruments such as permits, licences and approvals.

The right to sue provisions take effect in August 1994. The EBR gives residents increased access to the courts to protect the environment. A person can only go to court to protect a public resource. There will be no award of damages to those who sue. Also, any two Ontario residents have the right to request reviews of policies of prescribed ministries, as well as prescribed acts, regulations and instruments, and to request consideration or review of new acts and regulations. Requests for reviews will be accepted by MOEE beginning Feb. 1, 1995.

An Environmental Commissioner has been appointed to act as watchdog for the environment and to ensure that the prescribed ministries adhere to all requirements of the Act. The commissioner will have access to any information needed from a ministry and will use reporting powers to bring notice of abuse of the EBR to the legislature.

Regulations

3Rs Regulations (O.Reg. 101/94 — O.Reg. 105/94)

Five 3Rs Regulations became law on March 3, 1994 that require certain 3Rs (reduce, reuse and recycle) activities be undertaken by designated municipalities and industrial, commercial and institutional (IC&I) sectors. Ontario's businesses, industries and most municipalities will be required to implement waste reduction programs. There are six guides to the regulations which explain the requirements for source separation (recycling) programs, waste audits and workplans, packaging audits and workplans, and streamlined approvals for recycling sites.

The regulations apply only to solid, non-hazardous waste from residential and IC&I sources. The two regulations that are relevant to a variety of IC&I waste generators as well as Ontario's construction industry (O.Reg. 102/94 & O.Reg. 103/94, respectively) require waste audits, waste reduction workplans and source separation programs for large construction and demolition projects. Waste audits must be conducted for all construction or demolition projects of 2,000 m² floor area and waste reduction workplans must be developed before the project begins, for all projects commencing after Sept. 3, 1994. A Guide to Waste Audits and Reduction Workplans for Construction and Demolition Projects has been prepared to assist those responsible for designated C&D projects comply with the requirements of O.Reg. 102/94.

Source separation (recycling) programs must also be implemented for all construction and demolition projects of 2,000 m² floor area or larger by March 3, 1995, regardless of location. In the case of C&D projects, **commingled** source separated materials must be sent to a facility with a valid Certificate of Approval or to the permanent premises of the person undertaking the project (for immediate material separation). Uncommingled materials may be sent to a municipal waste recycling site. Designated construction projects must source separate brick, concrete, drywall, OCC, steel and wood. Designated demolition projects must source separate brick, concrete, steel and wood. A Guide to Source Separation of Recyclable Materials for Industrial, Commercial and Institutional Sectors and Multi-Unit Residential Buildings has also been prepared to provide guidance to those responsible for designated C&D projects in designing and implementing their source separation programs.

Regulation 346: General — Air Pollution, R.R.O. 1990

This regulation under the EPA provides for the control of air contaminants, establishes the air pollution index, criteria for determining visible emissions, criteria and formulas for calculating concentrations of pollutants at points of impingement, and restricts certain incineration activities. Construction, alteration, demolition, drilling, blasting, crushing, screening and sandblasting activities are also regulated.

Regulation 347 (formerly 309): General — Waste Management, R.R.O. 1990

This regulation under the EPA deals with many different facets of waste management including: the designation and exemption of wastes (hazardous, liquid industrial and municipal); classification, exemptions and standards for waste disposal sites and systems (transportation); management of asbestos waste; generator registration and manifests for liquid industrial and hazardous waste; on-site incinerators; woodwaste combustor sites; waste-derived fuel sites; existing hospital incinerators; stationary and mobile refrigerant waste; tires; and dust suppression.

Regulation 349: Hot Mix Asphalt Facilities, R.R.O. 1990

This regulation prescribes operating requirements for hot mix asphalt facilities with respect to air and water emissions, as well as reporting plant malfunctions to MOEE.

Regulation 362: Waste Management — PCBs, R.R.O. 1990

This regulation deals with the handling, storage, disposal and reporting requirements for designated PCB waste.

Regulation 189/94: Refrigerants

This regulation applies to refrigeration equipment containing chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs). It affects those who own, repair, refill, sell, collect, dispose of and recycle fluorocarbon refrigerant and equipment. Venting of refrigerants into the natural environment is prohibited. Collection or recycling are the only legal alternatives to venting. Effective Oct 1, 1994, anyone who handles, services or repairs refrigeration equipment containing fluorocarbons must be certified and have in their possession an Ozone Depletion Prevention (ODP) card.

Regulation 413/94: Halon Fire Extinguishing Equipment

This regulation controls the release of halons into the natural environment. Halons are up to 10 times more damaging to the ozone layer than an equal amount of CFCs. The regulation requires certification of companies servicing or dismantling halon fire-extinguishing equipment. The sale of new fire extinguishers and systems containing halons is prohibited. Venting halons into the atmosphere, except to fight fires, is prohibited.

Guidelines

Guidelines for the Decommissioning and Cleanup of Sites in Ontario

This guideline outlines a process to decommission facilities and clean up the environment. It includes management and technical procedures. Points in the decommissioning and site cleanup process have been identified where public consultation requirements and the requirements of other agencies may need to be met.

The purpose of these guidelines is to:

- ensure that the decommissioning and cleanup of sites is completed in an environmentally acceptable manner;
- communicate to decommissioning and site cleanup proponents and the public the requirements and policies of the MOEE and identify potential involvement of other agencies;
- ensure that the decommissioning and cleanup of sites in Ontario proceeds in an efficient, fair and consistent manner;
- ensure public involvement in the decommissioning and site cleanup process.

This guideline applies to facility mothballing, partial or complete dismantling, site remediation and real estate transactions. Facility abandonment is not an acceptable alternative. These guidelines apply to provincially, municipally or privately owned sites and facilities; they do not apply to waste disposal site closure or other site closures that require fulfillment of a MOEE Certificate of Approval or terms and conditions attached to an EAA Exemption Order.

Decommissioning and site cleanup should be conducted according to a planned process comprised of several distinct phases:

- Phase I Planning the decommissioning/site cleanup
 - Phase II Designing and implementing the decommissioning/site cleanup
 - Phase III Verifying completion of a satisfactory decommissioning/site cleanup
 - Phase IV Signing off
- In principle, remedial action will be required wherever contaminants are present at concentrations above ambient background levels. Cleanup criteria above background levels may be developed provided that the criteria are protective of human health and the environment. There are three approaches that may be taken to develop criteria above background levels:
- application of relevant MOEE policies and guidelines;
 - application of cleanup criteria developed in other jurisdictions, where appropriate;
 - development and application of site specific cleanup criteria.
- If cleanup criteria above background levels are proposed, specific reference must be made to future landuse that is compatible with existing or proposed neighbouring landuses. Generally, more stringent cleanup criteria will be required for agricultural, residential and parkland redevelopment, than for commercial or industrial redevelopment. Cleanup criteria have been developed for 22 chemicals.
- There are three general approaches that can be taken to manage contaminated and other waste materials:
- on-site management, including recycling/reuse, treatment, storage or control and thermal destruction;
 - removal for off-site recycling/reuse, treatment, storage or disposal;
 - on-site isolation.

MOEE approval of on-site management of contaminated and other waste materials may be necessary; contact the appropriate local MOEE district office in this regard. Materials requiring disposal must be classified and managed according to the EPA and Regulation 347.

Where either an MOEE approval to complete a decommissioning or site cleanup, or an order has been issued with respect to a decommissioning or site cleanup, the MOEE may require financial assurance to be posted by the proponent, in accordance with Part X of the EPA.

The remedial work plan should be reviewed by MOEE and other appropriate agencies prior to implementation to ensure agency objectives are being met. All information relating to the remedial work plan should also be made publicly available. A notice should be placed in all newspapers serving the community adjacent to the site to be decommissioned or cleaned up.

Public confidence in the proposed decommissioning or site cleanup may be increased by holding an on-site open house where the public is introduced to the site and the proposed plan for decommissioning or site cleanup. Implementation of the remedial work plan should not begin until 30 days following the newspaper notice; in complex undertakings, a longer public review period may be required.

Following the completion of decommissioning or site cleanup activities, the proponent must undertake a verification sampling program to establish that the objectives of the remedial work plan have been achieved. The results of the verification sampling must be made available to MOEE, other appropriate agencies and the public for review. If the site remediation objectives have not been met, the proponent will be required to undertake additional work necessary to meet the objectives. In some cases, on-going monitoring may be necessary to ensure that contaminant problems do not recur. After verifying the remedial work plan has been satisfactorily completed, all

appropriate agencies should be notified.

The final phase involves signing off the decommissioning or site cleanup. Documents registrable on the title of the property should be so registered. MOEE will provide written acknowledgement of the activities that have been undertaken and the level of cleanup achieved.

Special Note: Please refer to the section on the Proposed Guideline for the Cleanup of Contaminated Sites in Ontario for additional information on decommissioning and site cleanup activities.

Interim Guidelines for the Assessment and Management of Petroleum Contaminated Sites in Ontario

The purpose of these guidelines is to provide interim cleanup criteria for sites contaminated by petroleum products (primarily gasoline, diesel, and fuel and waste oil) released from underground storage tanks (USTs), aboveground storage tanks (ASTs) or lines/pumps. The guidelines specifically refer to contamination from retail and private fuel outlets and bulk transfer stations (excluding refineries and petroleum plants). The guidelines are intended to be applied a) when a recent known leak/release or adverse impact has been identified, b) when contamination is identified during equipment replacement or upgrading, and c) when a land use change is intended.

Guidelines for Evaluating Construction Activities Impacting on Water Resources

These guideline are an update of the MOEE's Evaluating Construction Activities Impacting on Water Resources published in 1976 and updated once in 1984, at which time it was published as a series of five separate documents:

Part I Guidelines for Construction of Hydrocarbon Transmission and Distribution Pipelines

Part II Guidelines for Highway and Bridge Construction

Part III Handbook for Dredging and Dredged Materials Disposal in Ontario

Part IV Marine Construction Projects

Part V Small Scale Projects

The current document supersedes Parts I, II, IV and V and covers major land-disturbing activities associated with oil and gas pipelines, highways and bridges, marine projects and small scale construction activities to enhance recreational uses of waterfront properties.

This guideline focuses mainly on erosion and sediment control during construction and represents one facet of the ministry's overall strategy to manage sediment so as to avoid the many problems that are being experienced with contaminated sediments in our watercourses. Experience to date strongly suggests that the best strategy for managing sediment is to direct efforts primarily towards prevention of problems, i.e. to minimize sediment loss to the aquatic system. The best way to prevent sediment from entering and degrading watercourses is to control it at the source. Such controls must be planned in advance and implemented during the development phase. Equally important for effective sediment and erosion control is the need for regular inspection and maintenance of erosion and sediment control devices.

Part III (A, B and C), the Handbook for Dredging and Dredged Material Disposal in Ontario, will continue to be distributed as separate volumes. This guideline has been prepared to assist proponents of dredging projects and ministry staff in the selection of safe and appropriate management methods based on dredged material characteristics and is intended to be a reference handbook of dredging-

disposal activities. The current revision incorporates the new sediment evaluation procedures from the Provincial Sediment Quality Guidelines.

Protocol for the Management of Excess Materials in Road Construction and Maintenance

A revised protocol has been released by MTO and MOEE to provide guidance on the safe management of materials and to encourage further the 3Rs in road construction and maintenance activities. This protocol updates an earlier 1988 version and outlines environmentally acceptable practices for managing excess materials such as asphalt, concrete, swamp material, other natural vegetation, road sweepings and catchbasin cleanout material.

Guidelines for the Handling, Transportation and Disposal of Asbestos Waste in Bulk

The purpose of this guideline is to provide basic standards for the assessment of vehicles, equipment and procedures used for the collection, transportation and disposal of asbestos waste in bulk. O. Regulation 347 permits the disposal of asbestos waste in any landfill site approved for the disposal of municipal waste. In addition to allowing this disposal method, Regulation 347 imposes standards for waste handling, packaging, transportation, vehicles and disposal sites.

Removal Procedures at Sites Containing substantial quantities of asbestos waste

The primary purpose of this procedure is the protection of the environment during the removal of asbestos waste from sites designated for redevelopment or other purposes. The procedure applies to sites containing substantial quantities of asbestos waste. It should be used

in conjunction with O. Regulation 347, the Occupational Health and Safety Act, Guidelines for the handling, transportation and disposal of asbestos waste in bulk, and Guidelines for the decommissioning and cleanup of sites in Ontario.

A Guide to Waste Audits and Reduction Workplans for Construction and Demolition Projects (under O.Reg.102/94)

Please refer to 3Rs Regulations section.

A Guide to Source Separation of Recyclable Materials for Industrial, Commercial and Institutional Sectors and Multi-Unit Residential Buildings (under O.Reg.103/94)

Please refer to 3Rs Regulations section.

Proposed guidelines & policy

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Proposed Guideline for the Cleanup of Contaminated Sites in Ontario (GCCS)

This proposed guideline sets out new approaches on how sites in Ontario should be assessed for contamination and cleanup. Environment and Energy Minister Bud Wildman had asked the Advisory Committee on Environmental Standards (ACES) to review the proposed guidelines and companion documents and obtain public comment on them. This proposed guideline is intended to replace the 1989 MOEE Guidelines for the Decommissioning and Cleanup of Sites in Ontario and the 1993 MOEE Interim Guidelines for the Assessment and Management of Petroleum Contaminated Sites in Ontario.

Special Note: During the public consultation period for the GCCS (proposed guideline), proponents should continue to use the guidance and criteria provided in Guidelines for the Decommissioning and Cleanup of Sites in Ontario February 1989 (guideline), and Interim Guidelines for the Assessment and Management of Petroleum Contaminated sites in Ontario August 1993 (interim guideline), for full site cleanup. If applicable or appropriate cleanup

criteria are not available from Tables A-1 or A-2 of the guideline or interim guideline, then the proponent may either (A) use other applicable MOEE criteria, or (B) propose criteria from another jurisdiction, or (C) develop site-specific criteria.

The guideline addresses the limitations of the current 1989 cleanup guideline, such as lack of cleanup criteria and limited flexibility in dealing with contaminants at depth. A new approach is needed to encourage redevelopment and reuse of contaminated lands in an environmentally and economically sustainable manner.

The new guideline describes a preferred practice for assessing and cleaning up contaminated sites by providing guidance on how to:

- assess a site for possible contamination;
- collect and analyse samples if contamination is suspected or found;
- clean up the property for reuse or redevelopment.

Under the guideline, a clean property is defined by soil, sediment and groundwater cleanup criteria developed for specific land and groundwater uses. If a property meets the cleanup criteria for a specific land and groundwater use, then that property is considered to be clean for the proposed use.

The guideline incorporates three different approaches for remediating a contaminated site. It is proposed that the property owner, not MOEE, have the option of selecting one of these cleanup approaches:

- background
- generic
- site specific risk assessment (SSRA)

The background approach remediates the site to rural or urban background levels for contaminants of concern. A set of background soil criteria has been provided in the guideline.

The generic approach lists cleanup criteria for 117 contaminants for both soil and groundwater. Separate criteria have been made available for surface (1.5 m depth) and sub-surface (greater than 1.5 m depth) soils. These generic cleanup criteria are effects-based and have been set to protect human health and the natural environment at almost all sites. Some sites, because of their sensitivity or other conditions, may require the use of more stringent requirements. Under the generic approach, there are two cleanup options available called full depth and stratified depth cleanup.

A full depth cleanup involves remediating all contaminated soil on the property to meet the surface soil cleanup criteria. A stratified depth cleanup applies surface soil criteria to a depth of 1.5 m allowing soils below 1.5 m to be remediated to separate sub-surface criteria.

The selection of full or stratified depth cleanup criteria is also made on the basis of three land use and two groundwater protection categories:

LAND USE

- Agriculture
- Residential/parkland
- Industrial/commercial

GROUNDWATER PROTECTION

- Non-potable (protects against vapor migration, contamination of surface waters)
- Potable (same as above but added protection for drinking water use)

The new guideline proposes the use of site specific risk assessment (SSRA) and risk management as alternatives to the use of MOEE generic or background cleanup criteria. The principles of risk assessment were used extensively to develop the generic soil and groundwater cleanup criteria in the proposed guideline. In SSRA actual site specific information is substituted for the assumptions used in the generic criteria. As a result, site specific cleanup criteria are usually numerically higher than the generic criteria, but should still protect human health and the environment.

Risk management techniques are usually engineering solutions that manage or control contaminants, rather than undertaking steps to reduce or remove contaminants. The use of risk management raises two major issues, namely the monitoring and maintenance of engineering solutions and identifying responsibility/funding for these solutions in perpetuity.

When sensitive site conditions exist, the generic criteria may be inappropriate for use. The guideline proposes that additional investigation and consultation be carried out to determine if more stringent cleanup is required.

Proposed guidelines & policy

A four-step process for site cleanup is outlined in the guideline:

1. Site assessment
2. Sampling and analysis
3. Site cleanup
4. Completion of the cleanup (involves submission to MOEE of Notice of Cleanup form)

A notification mechanism is proposed for all cleanups where the site does not meet background or full depth/potable groundwater protection criteria. The Certificate of Prohibition and Director's Order provide a formal notification mechanism to persons acquiring a future interest in the property.

It is also proposed in the guideline that voluntary cleanups, where MOEE has no regulatory involvement, be implemented without a formal MOEE review of the cleanup plan. MOEE guidance would still be provided to a property owner/consultant on request for direction on specific issues. However, the responsibility and liability for current and future cleanup remains with the property owner (present or past) and/or consultant.

It is proposed that final reports on the completion of cleanup, as well as the Notice of Cleanup document in this guideline be certified by a professional engineer licensed to practise in Ontario or other established professional recognized by MOEE. MOEE will acknowledge the completion of cleanup only when the Notice of Cleanup is certified by such a professional. MOEE will be conducting spot audits, including sampling and analyses, to verify the cleanups performed.

Note: Contact Program Development Branch at (416) 314-4140 for additional information.

Proposed Policy for the Management of Excess Soil, Rock and Like Materials (MMP)

The purpose of MMP is to ensure that the disposal of excess soil, rock, and waste materials of a similar nature occurs in a manner consistent with Regulation 347 of the EPA and without imposing undue strain on landfill resources. The guiding principle behind MMP is that disposal of such materials should not adversely affect the natural chemical quality of the soil, surface water or groundwater at the disposal site. MMP uses background-based, as well as effects-based chemical criteria. The effects-based criteria are derived from the proposed GCCS currently undergoing public consultation. Consequently, MMP cannot be finalized until the public consultation for GCCS is completed.

Amendments to Regulation 347 of the EPA will be required for implementation of MMP.

Public consultation on MMP was previously undertaken by ACES in 1992 and a final report was submitted to the Minister of Environment and Energy in April 1993. The key ACES recommendations were:

- the policy should not proceed immediately to regulation because of its complexity; experience with implementing the policy, on a trial basis (as a guideline) should be gained before the policy is formalized;
- the sampling and analytical methodology which determines the appropriate classification of materials needs to be properly explained and justified;
- a few controlled fill pilot sites be established and operated by MOEE to determine the practicality of such sites.

Four categories of fill materials are proposed, based on revised chemical criteria. The disposal options and approval requirements for each category of materials are summarized below:

Fill category	Disposal options	Approvals requirements
Inert fill	No restrictions	No MOEE approvals required (exempt waste)
Urban residential fill	Urban areas and areas where the next fill class is allowed	as above; permit-by-rule
Urban industrial fill	Urban industrial areas or at controlled fill sites	as above; permit-by-rule
Controlled fill	Controlled fill or landfill sites	EPA Part V approval required

In addition to the above four fill categories, a special fill category known as **engineered fill** has been developed to allow the use of soil-like and rock-like materials in specified engineered construction applications.

Note: Contact Program Development Branch at (416) 314-4140 for additional information.

Appendix A — Ontario Ministry of Environment and Energy Offices

Further clarification needs Contact offices

3Rs policy	Waste Reduction Branch
Road construction protocol	40 St. Clair Avenue West,
3Rs Regulations (101/94 — 105/94)	7th Floor
Disposal policy/Regulation 347/PCBs	Toronto, M4V 1M2
Asbestos/CFCS	Phone: (416) 325-4440
Decommissioning/cleanup guidelines	Fax: (416) 325-4437
Materials Management Policy	
Regulation 346: Air	Program Development Branch
Regulation 349: Hot Mix Asphalt Facilities	40 St. Clair Avenue West
	14th Floor
	Toronto, M4V 1L5
	Phone: (416) 314-4140
	Fax: (416) 314-4128
Guidelines for evaluating construction impacting on water resources	Standards Development Branch
Handbook of dredging and dredged materials	2 St. Clair Avenue West,
	12th Floor
	Toronto, M4V 1L5
	Phone: (416) 323-5095
	Fax: (416) 323-5166

EPA approvals

Air quality
Water quality

Waste management

EAA approvals

Environmental Bill of Rights

Approvals Branch	Environmental Assessment Branch
250 Davisville Avenue,	250 Davisville Avenue,
3rd Floor	5th Floor
Toronto, M4S 1H2	Toronto, M4S 1H2
Phone: (416) 440-3713	Phone: (416) 440-3450
Fax: (416) 440-6973	Fax: (416) 440-3771
* Industrial approvals — air	
* Industrial approvals — waste water and MISA	
* Industrial approvals — waste sites and systems	
	Environmental Bill of Rights Office
	2 St. Clair Avenue West,
	14th Floor
	Toronto, M4V 1L5
	Phone: (416) 323-5200
	Fax: (416) 323-5031

Appendix A

General inquiries — MOEE regions

Central Region

7 Overlea Blvd., 4th Floor
Toronto, M4H 1A8
Phone: (416) 424-3000
Fax: (416) 325-6345

General inquiries — MOEE regions

continued

Mid Ontario Region

199 Larch Str., 11th Floor
Sudbury, P3E 5P9
Phone: (705) 675-4501
Fax: (705) 675-4180

Northern Region

435 James Str., 3rd Floor
Thunder Bay, P7E 6E3
Phone: (807) 475-1205
Fax: (807) 475-1754

Eastern Region

133 Dalton Ave.
Kingston, K7K 6C2
Phone: (613) 549-4000
Fax: (613) 548-6908

Southwestern Region

985 Adelaide Str.
London, N6E 1V3
Phone: (519) 661-2200
Fax: (519) 661-1742

West Central Region

119 King Str.
P.O. Box 2112, 12th Floor
Hamilton, L8N 3Z9
Phone: (416) 521-7640
Fax: (416) 521-7820

Appendix B

Appendix B — Publication contacts

<i>Publication</i>	<i>Contact offices</i>
General inquiry	Publications Ontario 50 Grosvenor Street Toronto, M7A 1N8
	Bookstore — Main Floor 880 Bay Street General Inquiry (416) 326-5320
	Mail Orders 50 Grosvenor Street (416) 326-5300 or 1-800-668-9938
General inquiry	MOEE Public Information Centre, 1st Floor 135 St. Clair Avenue West Toronto, M4V 1P5 Phone: (416) 323-4321 or 1-800-565-4923 Fax: (416) 323-4654

Acts and regulations	Publications Ontario (address and phone #s as above)
Guidelines and proposed guidelines & policy	MOEE Public Information Centre (address and phone #s as above)
	or
	Specific MOEE offices (see Appendix A)

